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Agenda Item 5: NAM/CAR Regional Aviation Security/Facilitation Implementation

ASIA PACIFIC ECONOMIC COOPERATION (APEC) BUILDING RANDOMNESS AND UNPREDICTABILITY INTO AVIATION SECURITY COUNTERMEASURE DEVELOPMENT AND IMPLEMENTATION PROJECT

(Presented by United States)

EXECUTIVE SUMMARY

The United States conducted the *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* project under the auspices of the Asia Pacific Economic Cooperation (APEC). The project was designed to enhance APEC Members' risk mitigation capabilities by examining how to best leverage their existing resources to target specific threats and identify vulnerabilities, and to determine when, where, and how to allocate future resources. As outputs of the project, the United States is sharing the Project Summary and Best Practices Guidelines (refer to paragraph 1.3) with the ICAO North American, Central American and Caribbean (NACC) Contracting States for consideration when building randomness and unpredictability into aviation security (AVSEC) countermeasure development and implementation.

Action:	<ul style="list-style-type: none">• Review the Project Summary and the Best Practices Guidelines documents, linked in paragraph 1.3;• Work with the Secretariat to promote the Best Practices Guidelines for regional dissemination and consideration;• Share this information with the various regional AVSEC groups within the NACC States to assist with building randomness and unpredictability into AVSEC countermeasure development and implementation.
Strategic Objectives:	<ul style="list-style-type: none">• Strategic Objective 3 – Security & Facilitation
References:	<ul style="list-style-type: none">• ICAO 40th Assembly SkyTalk: AVSEC Risk Management¹• ICAO Security Culture Toolkit and Resources²

¹ Refer to <https://www.youtube.com/watch?v=WDDIEUC1mlA&feature=youtu.be>

² Refer to <https://www.icao.int/Security/Security-Culture/Pages/ICAO-Resources.aspx>

1. INTRODUCTION

1.1 At the 2017 APEC Transportation Ministerial Meeting, APEC reaffirmed its commitment to enhancing transportation security by: improving Member Economies' capacity to mitigate vulnerabilities and counter terrorist threats; engaging with other stakeholders within APEC and international organizations (e.g., ICAO); encouraging participation in ICAO priorities, such as the development of Security Culture and human capability programs; and minimizing security risks to transportation by encouraging economies to develop strong and informed security policies and to boost participation in security initiatives.

1.2 In line with APEC's commitments to enhancing transportation security and priorities of ICAO, under the auspices of the APEC Transportation Working Group (TPTWG), the United States conducted the *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* project. The objectives of the project were four-fold: 1) ensure participants understand the international standards and recommended practices for the application of random and unpredictable techniques in their aviation security regime, with a focus on airport-level operations; 2) increase participants' knowledge of the insider threat within the aviation domain, how to address security issues using risk-based approaches, and better leverage existing resources to mitigate that threat; 3) build support for participants to implement randomness and unpredictability within their aviation security operations through risk analysis principles and risk management to mitigate identified vulnerabilities; and 4) foster evidence-based, risk-informed decision making to support a more robust Security Culture.

1.3 The APEC Random and Unpredictable Countermeasures Project was successfully conducted from October 2020 to March 2023. It included 57 participants and 29 experts and speakers from APEC Members³ and Industry actively participating in two virtual workshops, a Mini Webinar, and project evaluation instruments, such as questionnaires and mid-project and follow-up surveys, and culminated in an Outreach Campaign Briefing, as well as two project deliverables that were published by APEC – APEC#223-TR-01.1: *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* Project Summary⁴ and APEC#223-TR-03.1: *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* Best Practices Guidelines⁵. To ensure the sustainability of the project and its principles, the United States committed to sharing the project deliverables with ICAO to inform on the work being conducted within APEC on the development and implementation of random and unpredictable countermeasures, to promote the Best Practices Guidelines for global dissemination and consideration, and to encourage ICAO to continue the project and further promote implementation of the project principles.

³ Including some NACC Contracting States: Canada, Mexico, and United States

⁴ Refer to <https://www.apec.org/publications/2023/02/building-randomness-and-unpredictability-into-aviation-security-countermeasure-development-and-implementation-project-summary>

⁵ Refer to <https://www.apec.org/publications/2023/02/building-randomness-and-unpredictability-into-aviation-security-countermeasure-development-and-implementation-best-practices-guidelines>

2. BUILDING RANDOMNESS AND UNPREDICTABILITY INTO AVIATION SECURITY COUNTERMEASURE DEVELOPMENT AND IMPLEMENTATION

2.1 The project was designed to enhance APEC Members' risk mitigation capabilities by examining how to best leverage their existing resources to target specific threats and identify vulnerabilities, and to determine when, where, and how to allocate future resources. The project enabled participants to develop and institute more sustainable AVSEC measures that will not only provide greater facilitation of passengers and goods in air transport, but also allow for sustained high levels of security across the operating system. Participants learned how to better leverage existing resources to mitigate the insider threat, thereby affording all APEC Members, regardless of their economic means, equal opportunity to develop and implement countermeasures considering their current resources, without major expenditure. Thus, creating a more secure, efficient, and sustainable transportation environment.

2.2 Throughout the project, participants were encouraged to share best practices in building randomness and unpredictability into AVSEC countermeasures, and the initial set of recommendations were captured from inputs from the Part 1 Workshop and were included in the Outreach Campaign Briefer (refer to paragraph 1.3 – Project Summary), and the Best Practices Guidelines expanded on that and captured additional best practices and lessons learned over the course of the entire life of the project. The Guidelines provides key considerations participants noted throughout the project, as well as additional considerations where participants noted challenges in their own programs, namely where to start and how to develop or implement truly random and unpredictable AVSEC countermeasures. It also provides a true look at key principles explored in depth throughout the project and best practices, references and resources that participants and experts offered as crucial to building randomness and unpredictability into AVSEC countermeasure development and implementation.

3. BEST PRACTICES GUIDELINES

3.1 Key themes from the project captured within the Best Practices Guidelines, include: Assessing the Risk and Identifying Vulnerabilities, Determining the Appropriate Countermeasures, Creating an Implementation Plan and Scheduling Random and Unpredictable Aviation Security Countermeasures, Monitoring the Implementation of Random and Unpredictable Aviation Security Countermeasures, Coordinating with Stakeholders During the Development and Implementation Process, Promoting Security Culture for Effective Security Countermeasure Implementation, and Adding Random and Unpredictable Countermeasures to Baseline Security Measures. Consistent with international standards and recommended practices, project participants recognized when determining the appropriate countermeasures to implement within an airport, the appropriate authority, in collaboration with airport operators and stakeholders, should first conduct a risk assessment, the results of which, when considered along with intelligence from government and open sources, should inform what and where resources should be applied and the specific countermeasures to be developed and implemented in order to more effectively mitigate the assessed risk. Accordingly, vulnerability identification should be generally focused on local operations, in consideration of the threats to AVSEC, and be regularly assessed using the information that is available at the time to inform decisions.

3.2 Participants who struggled with allocation of resources learned that by compiling a list of AVSEC countermeasures that could be implemented, then analysing and applying a low, medium, or high rating of the effectiveness of each countermeasure vis-à-vis the identified vulnerability or threat, the resulting information will help to direct what and where resources should be allocated. However, when creating an implementation plan for an identified vulnerability, participants agreed all effective countermeasures should be initially considered, not just those rated as highly effective to ensure all options are duly considered and the most effective (in terms of both security effectiveness and cost effectiveness) measures are applied.

3.3 To guide participants through the development process and into implementation of random and unpredictable aviation security countermeasures, the Best Practices Guidelines also highlights the necessity of monitoring the implementation of the countermeasures to determine whether they are implemented appropriately and remain effective in mitigating the vulnerability, and to determine if adjustments to the schedule (frequency and location) should be made. Changes due to airport operations (e.g., seasonal surge or decline in operations, new construction or renovation works, etc.), changes to the risk assessment and/or threat or as new intelligence becomes available, and as technology and international best practices are improved, should be considered during reevaluation and when adjustments are made to the random and unpredictable aviation security countermeasures programs, as appropriate.

3.4 While many of the key themes from the Best Practices Guidelines complement the guidance on unpredictability principles and measures provided in the ICAO *Aviation Security Manual* (Doc 8973 – Restricted), the project aimed to explore additional thematic elements not already covered and expand upon the guidance. The complete *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* Best Practices Guidelines may be found at the link in paragraph 1.3.

4. CONCLUSION

4.1 Both APEC and ICAO have supported the development and implementation of random and unpredictable security countermeasures, and encouraged collaboration amongst members, industry, and the global transportation community in this regard.

4.2 During the 41st Session of the ICAO Assembly SkyTalk: *Aviation Security – Managing Insider Threat and Building Security Culture* on 28 September 2022⁶, presenters emphasized that a multi-layered regime assists to mitigate against the risk of the insider threat. Throughout the APEC project, participants learned that building randomness and unpredictability into AVSEC countermeasure programs helps to strengthen their local aviation ecosystem and by extension the global transportation network by providing a multi-layered approach. Accordingly, the United States is pleased to share the outcomes and deliverables of the APEC *Building Randomness and Unpredictability into Aviation Security Countermeasure Development and Implementation* project, with the hopes that the continuation of this project and its principles through ICAO and other organizations would result in the emphasis on the interconnectedness of aviation across economies both regionally and globally.

— END —

⁶ Refer to <https://www.icao.tv/skytalks/season:1/videos/a41-skytalk-aviation-security-managing-insider-threat-and-building-security-culture>